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ABSTRACT

To identify critical postimplementation events and school-related factors that affect the continuation of new classroom practices, qualitative data were collected in 14 elementary and secondary schools representing a mix of settings. Efforts to improve the schools' instructional programs in either basic skills, career education, or citizen education had been aided with formal school improvement activities. After 12 to 24 months, researchers, in a followup study, assessed the practices of teachers and administrators to determine whether the new practices were still being used. The data suggest that the most important factor supporting teachers' continuation of the new practices was support from the building administrator, though in some grades or departments support from other teachers contributed to the continuation of practices. The revision of curriculum guides facilitated the continuation of practices and helped ease the adjustment of new teachers. Finally, assessment of effectiveness by teachers affected continuation of practices in two districts. Additional analysis examined school organizational factors that affected the likelihood of occurrence of these events. (MLF)

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SCHOOL CONTEXT AND THE CONTINUATION OF INNOVATIVE PRACTICES

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Abstract

This paper describes an exploratory study which illuminates school-related factors that promote or hinder the extent to which classroom instructional changes are maintained beyond an initial period of implementation. Qualitative data were collected in 14 elementary, junior high, and high schools representing a mix of urban, suburban, and rural settings. The data suggested that teachers continued to use new practices after formal school improvement activities ended when (1) a school was organized such that a continued flow of incentives were available to them; (2) rules and curriculum guidelines governing instructional behavior were altered to support the new practices; or (3) teacher assessments of the effectiveness of the new practices were positive. Additional analysis examined school organizational factors that affected the likelihood of occurrence of these three events.

SCHOOL CONTEXT AND THE CONTINUATION
OF INNOVATIVE PRACTICES

What happens to changes in teachers' classroom practices once they are implemented? Do they tend to remain in place? Are they simply shelved once the hoopla surrounding a school improvement project dies down? Or, are they continued or discontinued on the basis of reasoned judgments about their effectiveness? Although schools are frequently criticized for their hypochondriacal tendency to seize a highly-touted remedy only to replace it haphazardly with the next miracle cure that comes along, the literature on the persistence of new practices in schools is only beginning to scratch the surface of this important topic in the study of educational change.

This paper reports on an exploratory study intended to illuminate some of the school-related factors that promote or hinder the extent to which an innovation is maintained beyond an initial period of implementation. The central theme of the paper is that once formal school improvement activities end, so will most of the new practices unless (1) a school is organized so that a continued flow of incentives and encouragement is available to those making changes or (2) rules and guidelines governing instructional behavior are altered to support the new practices. If neither of these two events occur, the practices rarely last long enough for systematic judgments of effectiveness to be made.

The first section of the paper is a discussion of the literature concerning the durability of changes. Second, the research procedures and characteristics of the schools studied are described. Next, findings are presented. Finally, an initial framework for understanding how aspects of a school's context affect the maintenance of new classroom practices is drawn from the data.

Research on the Continuation of Change

This section of the paper has two purposes. The first is to define what is meant by the term "continuation." This is done by placing the time span denoted by the concept into the context of the life course of a change project. The second purpose is to foreshadow the discussion of study findings by identifying what research says about organizational events which affect the persistence of change.

The Concept of Continuation

Researchers often divide the change process into conceptually distinct, but often overlapping in practice, stages. For example, Hage and Aiken (1970) note four: (1) evaluation, or a period of assessment of organizational needs; (2) initiation, which denotes the beginning adjustments an organization must make to accept a new program; (3) implementation, or the period during which the new program gets its early trials; and (4) routinization, which is when the new program is stabilized as a part of permanent practice. This last stage has been accorded several labels, e.g., "incorporation" (Berman and McLaughlin, 1978) or "continuation" (Rosenblum and Louis, 1981). Because it can connote the idea that change endures as the result of both the deliberate incorporation of new practices into everyday routines or simple inertia, continuation will be the term used in this paper. The focus of the paper, then, is on what happens to change during the fourth stage of the change process.

From the research available on the provision of external assistance for school improvement, the most useful point to separate implementation from continuation is when external resources allocated specifically to the change effort are removed, i.e., when the patient is taken off a life

support system and must maintain critical functions independently of special assistance. For example, Berman and McLaughlin (1977) and Rosenblum and Louis (1981) discovered a drop in the amount of change when federal funds were withdrawn. Thus, the removal of outside support seems to be a particularly traumatic event for maintaining new practices.

Miles (1964) provides another way to view this juncture in the life of a change project. He labels special projects involving a subset of organizational members as "temporary systems." That is, project participants constitute a collectivity of people who (1) are called together for a special purpose, (2) are expected to disband when either their objectives have been attained, their allotted time is up, or their meeting is over, and (3) through the pursuit of a joint task take on the characteristics of group life. The point at which a temporary system to promote change disbands, then, can be thought of as an indicator of a shift in organizational concern from getting new practices started to seeing to it that they are continued as routine operation.

Organizational Events Affecting Continuation

What happens to change, then, when a system is on its own to support it? Rosenblum and Louis (1981) found that in a school district where implementation goes well, so does continuation. While they did note a drop in the amount of change when federal assistance ended, schools which implemented relatively more than other schools also continued more (although there seemed to be a reduction in the disparity among the schools over time). Because most of the research on change in the past decade has been on implementation, this finding should be heartening to curriculum developers, change agents, and other researchers; the understandings they have

developed about implementation will serve them well in understanding continuation.

However, other research on organizations suggests that this close link between implementation and continuation is by no means assured. Hage and Aiken (1970) and Yin et al. (1978) discovered that special attention had to be given to the "routinization" of changes to insure that they lasted. For example, new practices had to be codified into rules governing action, be included in training activities for newcomers, successfully survive budget reviews, and outlast the tenure of the individuals who were intimately involved in planning the innovation. Additionally, Berman and McLaughlin (1976) noted that if these new practices actually replaced existing practices then they were more likely to continue; the prospects for "add-on" activities were lower. Should such routinizing events not occur, then the chances for change to persist are reduced.

Glaser (1981) acknowledges similar means for promoting change durability. He also discusses several others that have a slightly different tone related to the kinds of interaction found in an organization. In particular, he says that opportunities for staff to discuss changes once implemented, to provide feedback to one another on the success of certain changes, and to receive continuing reinforcement for using new practices have all been shown to be important facilitators of change durability. In the Study of Dissemination Efforts Supporting School Improvement it was found that when similar kinds of social interaction related to new practices occurred, the practices tended to remain in place (Crandall et al., 1982).

Thus, two categories of post-implementation organizational events have been shown to be important influences on the extent to which new practices are continued over time: (1) the incorporation of the practices into rules and operating procedures, and (2) the provision of opportunities for discussions about and reinforcement for continuing new practices.

To these two categories of events, a third has to be added: assessments of the effectiveness of changes. As Rogers (1962) observes, not all changes should be continued. Presumably, some changes will prove to be successful means for assisting attainment of desired goals and others will not. To the extent that changes are less useful, they likely will be discarded. Thus, such assessments are also important events affecting continuation.

The data from this study were examined to determine what relationships existed between these three categories of events and whether or not newly-implemented practices continued to be used. However, the analysis also had an additional focus. The cumulative research on implementation in schools warns that knowing that certain critical events must take place does not insure their occurrence. In fact, one of the major lessons from the past decade is that there are important contingencies in a school's context which can stall, stop, or speed up the change process, often in spite of the intentions of intelligent and committed individuals (Berman, 1981). Thus, research on the persistence of innovative practices must pay careful attention to characteristics of schools which can facilitate or block the occurrence of these important events after implementation.

The intent of this paper, then, is to identify critical post-implementation events that affect the continuation of new classroom practices and

the school-related characteristics upon which their occurrence is contingent. This will help generate an initial conceptual framework for understanding why continuation does or does not occur. Knowledge about continuation at present falls far short of providing a priori hypotheses to test.

Research Methods

The data reported in this paper were collected as part of a three-year exploratory study of change in 14 schools. The schools were attempting to improve their instructional programs in either basic skills, career education or citizen education, with external assistance from Research for Better Schools (RBS) (a private non-profit educational laboratory). The schools arranged for the time for their staff to participate in the projects (five managed to obtain special funding for this from the state education agencies) and were responsible for final decisions about which changes to make; RBS provided, at no cost, resource and training materials and the time of one or more field agents and numerous technical staff. Thus, RBS offered intensive assistance while the schools provided a place for RBS to develop approaches to school improvement in the three fields.

Data Collection and Site Schools

In the first year of the study, the initiation of the change projects was examined in all 14 schools. Then, intensive field work, involving observation and formal and informal interviewing, was done in five of the schools to get rich data on the intricacies of implementing change. Research staff determined that more in-depth investigation of school life was needed and that five was the largest number of schools research

resources could accommodate. The specific five schools were those which posed the fewest entry problems for fieldworkers. During this time activities at the other schools were tracked through occasional school visits and interviews to see if similar issues were arising. The third year of the study was devoted largely to conducting interviews in all 14 schools to determine the fate of changes after formal project activities had ended. In two of the schools, such activities had not ended by this time; in the remainder, 12 to 24 months had elapsed since the schools had received special external assistance.

The research intent was to interview as many teachers and administrators in a school as possible. The number of people interviewed varied widely, from 100 percent (N=14) in one school to only 2 percent (N=2) in a school where most of the staff with knowledge about the project had departed. Of course it should be remembered that considerable field work had been done in all of the sites prior to the interviews. Thus, the interviews were not the sole source of data about relevant issues.

The third-year interviews themselves were open-ended. Staff were asked to describe (1) changes they had made personally, (2) changes they were aware that others had made, (3) changes in school procedures, and (4) the extent to which any of these changes were currently in use. Thus, interviewees responded as subjects and informants. When discrepancies among interviewees in a school occurred, field data collected previously were consulted and, if necessary, additional staff at a site were interviewed to help resolve the matter.

In the first year of the study, teachers completed surveys concerned with the organizational characteristics of their schools. A full report on

this research activity is available elsewhere (Firestone and Herriott 1980). The data are used in this paper in only one instance to report the number of teachers who said they felt free to call on their colleagues for help and who said they visited other teachers' classrooms.

Figure 1 lists the schools and some of their characteristics (all school names are pseudonyms). Briefly, there were three high schools, six junior highs, and five elementary schools. They operated in a mix of urban, suburban, and rural communities and represented a wide range of sizes and student populations.

Figure 1 about here

The schools were those which were approached by and agreed to work with RBS staff in one of the three content areas. Selection criteria varied across the three areas. In basic skills, schools were identified by intermediate service agencies; in career education, schools were selected because they had previously expressed an interest in obtaining special state assistance funds for career programs; in citizen education, schools were sought which had evidenced acute social problems. Thus, the schools were not selected in a way that allowed generalizability to a larger population with any degree of confidence. However, the sample represented an invaluable mix of schools for helping to generate an initial understanding of the change process.

Assessing Implementation and Continuation

The implementation of change has been measured in a variety of ways. For example, Rosenblum and Louis (1981) assessed both the "quantity" of

change (i.e., the number of organizationally relevant subunits which changed) and the "quality" of change (i.e., how widely changes departed from existing practices). Others have examined different levels of change (e.g., Hall and Loucks, 1977; Larsen and Werner, 1981). In this study, implementation was to be a baseline against which to compare the state of affairs after a period of time had elapsed. Primary emphasis was on depicting the quantity of change within a school, i.e., the number of teachers and administrators who altered their practice as a result of the RBS projects. These alterations were only the overt changes in practices. Many staff acknowledged alterations in their awareness of certain issues; but unless a new awareness was translated into action, it did not become a part of this analysis. The quantity of implementation, then, represented a snapshot of the schools at the point when formal activities ended.

Two different measures of the final stage of the change process have been used in the literature. Rosenblum and Louis (1981) were concerned with the amount of continuation in a school relative to other schools. This approach highlighted the importance of school factors affecting implementation as explanations for continuation because, understandably, the factor accounting for the most variance across schools in the amount of continuation was the amount of implementation (see also Fullan, 1982). On the other hand, Glaser (1981) attempted to explain why an innovation declined or was retained within an organization after implementation. This approach focused his explanation on post-implementation factors. This latter approach was adopted in this study, especially because of the few opportunities researchers have had to examine what happens after implementation. Thus, the fate of the changes were assessed after 12 to 24 months

had elapsed; and the concern was with explaining decline or maintenance of change within a school.

Table 1 summarizes the quantity of change during implementation of the RBS projects and the rate of the changes after a period of time had elapsed. These changes were of two types: (1) individual changes staff made in how they carried out their instruction-related responsibilities, e.g., new classroom activities, different sequencing of lessons, new classroom management techniques, and new supervisory emphases; or (2) alterations in procedures or policies, e.g., a new honor code or different scheduling practices. Of the 12 schools where more than 12 months had passed between the end of formal project activities and the continuation interviews, five schools had essentially maintained teacher classroom changes at the same level; six schools had noticeable drops; and one had never made any such changes. In one of the two schools where formal activities were still in progress (thus excluding them from this analysis), there were already strong indications that fewer changes would be continued than were implemented.

In five of the schools, one or more administrators also made changes in their practice. Although administrative behavior was not the focus of the projects, administrators in four of the schools revamped their classroom supervision emphases to include the kinds of changes project teachers made; in the fifth school, Suburban, the administrator adopted a more democratic leadership style.

Table 1 about here

It should also be noted in Table 1 that changes in procedures tended to be retained. The lack of variance could support the argument that it is more efficient to alter procedures rather than practice. However, for this to be effective, a procedure actually has to guide practice; research on school organization suggests that considerable slippage may occur between the two (Weick, 1976).

There was considerable variation in whether new classroom practices were maintained. In some instances, schools that achieved greater implementation among staff members, like Neighbortown and Green Hills, had declines even though the amount of change remaining was greater than that of some other schools. However, not all schools with high implementation experienced declines (e.g., Smalltown Middle, Smalltown Elementary, and Southend), and not all less ambitious schools were able to maintain the few changes they made (e.g., Riverside and Farmcenter). Thus, declines were not simply artifacts of having attempted more change.

To say that a decline occurred in a school is not to say that discontinuation was uniformly evident throughout a school. An important finding of this study that will be discussed later is that subunits (departments or grade levels) could display organizational tendencies different from the school as a whole. Occasionally, these organizational differences made conditions right for a subunit to continue changes that teachers elsewhere in the school easily dropped. Thus, to fully understand factors affecting continuation, analysis moved back and forth from the school to the subunit as the unit of focus.

Critical Post-Implementation Events and Continuation

This section discusses if and how the three categories of post-implementation events described earlier affected the continuation of new classroom practices. More specifically, the focus is on (1) the provision of incentives and opportunities for interaction with other staff about new practices, (2) curriculum guides as a potentially beneficial arena for adjusting rules and procedures, and (3) the occurrence of assessments of effectiveness.

Incentives and Interaction Opportunities

Formal project activities constituted what Miles (1964) calls a temporary system. That is, the projects possessed organizational properties of their own and were acknowledged as having a limited duration. In many cases, these temporary systems operated very differently from the ways in which the schools, or permanent systems, operated. For example, instead of relying on students for most of their human contact in the harried atmosphere of the classroom, teachers were able to sit in relatively uninterrupted settings to discuss professional matters; instead of making decisions about a single classroom individually, they became involved in joint planning for the entire school; and instead of having few, if any, adult sources of feedback and encouragement about their teaching performances, they worked in a supportive environment in which commendations for action were frequent from peers, outside experts, and school administrators.

Temporary systems in the form of planning committees or advisory groups were still in operation in all 14 schools when the first implementation efforts were made. As a result, teachers received a steady stream of queries about how the new activities were going, including frequent

interviews from researchers. In addition, they occasionally had the opportunity to share their project experiences at in-service meetings, at special conferences arranged by RBS, and to outsiders who had heard of the new programs. This first flush of implementation was a heady experience for many of the participants.

It should not be surprising, therefore, that the most critical factor affecting the extent to which new classroom practices were maintained once the temporary systems dissolved was the availability of incentives, or "any prospective source of gratification" (Sieber, 1981). Because teachers typically work in isolated settings with very few available rewards (Lortie, 1975) the switch from a temporary system to the permanent one as the major arena for action can be traumatic for them, and problematic for the continuation of change. Such was the case in the RBS schools. Where either positive or negative incentives (e.g., verbal encouragement or the potential of a poor evaluation) were available to staff to maintain changes, the new practices on the whole were continued; where such incentives were not available, the amount of change declined.

There were three major potential sources of incentives: administrators, other teachers, and students. By far the most important source for maintaining change at the school level was the building administrator (see also Corbett, 1982b). A teacher's interactions with the other two sources were not of the frequency or nature to make them very effective in encouraging innovative behavior to be maintained. (This is not to discount the salience of these two sources for maintaining other kinds of teacher behavior.)

Administrators as a source of incentives. In four of the five schools where changes were continued, there was at least one administrator in the building who exhibited a keen interest and played an active part in seeing to it that changes were continued. In fact all four also made changes of their own in either their supervisory or leadership style, even though this behavior was not a focus of the project. In the fifth school, a district administrator whose office was located in the school building was an ardent supporter of the project.

At Smalltown Elementary, Smalltown Middle and Southend, the administrators not only conveyed this interest in conversations with faculty but also included on formal evaluations their observations about staff progress toward system goals the projects addressed. At Smalltown Middle this use of evaluations was only with the English department (which had received formal training); in the other two schools, all non-project teachers were held accountable for progress toward the same goals as project teachers. Non-project teachers were provided project-related materials and, not surprisingly, used them to a considerable extent. As one administrator said, "(By using evaluations) I may have put some of them in the position where they had to do something." Thus, the administrators coupled positive incentives (recognition of the use of new practices) with negative ones (the threat of a lowered rating on evaluations for non-use) to effectively induce a large number of project and non-project staff to maintain the new practices. At Suburban and Bigtown the administrators used more informal and positive incentives in support of project changes, especially verbal encouragement and visible involvement in project-related activities.

Post-implementation administrative incentives were noticeable by their absence at Neighbortown, Farmcenter, Middleburg, and Green Hills. The Neighbortown principal believed that teachers preferred to be left alone to do their work and thus did not discuss changes with them even though the principal professed a strong commitment to the changes. The teachers, on the other hand, noted that had someone bothered to ask them occasionally how "things were going," they likely would have continued many of the activities. One teacher stated that the new activities required some additional work and in the absence of positive incentives like recognition or a more negative incentive such as an administrative mandate "I stuck with what was comfortable for me."

The principal at Farmcenter was defined as a "joiner" by several staff members. Each year the school seemed to become involved in a new project, and during the year following implementation of the RBS project, staff in-service time was shifted to an entirely unrelated activity. Staff interpreted this to mean that the former project was no longer a priority and subsequently discontinued the classroom practices devised for it. At Middleburg, the principal also replaced the RBS project with another one, and with similar results. At Green Hills, the principal who initiated the RBS project was transferred. The new principal continued project-related planning (without RBS assistance at the principal's insistence) but did not consult with nor involve the original RBS participants in this planning. Thus, the principal actually encouraged some staff and paid very little attention to others. Subsequently, several of the initial project teachers reported a considerable drop in their enthusiasm for continuing changes.

The question arises as to why some building administrators continued to support changes actively while others did not. Certainly the answer is a complex combination of factors, but the data from this study suggest that administrators were not all that different from teachers. When sources of incentives were available to them to promote the changes, they did; when such sources were not available, they did not.

For example, the two Smalltown schools and Southend were in the same district, and the projects addressed the most pressing issue the superintendent felt the district faced: improving basic skills achievement. The central office closely followed the schools' progress toward attaining this goal. Not coincidentally, administrators made special efforts to promote the changes developed in the RBS projects intended to improve student performance.

Although there was an overall decline in continuation at Oldtown, periodically the administrator who coordinated the RBS project received an external boost that enabled redirecting attention to project-related changes. For example at one point when the administrator felt that no more time could be allocated to promoting new practices because of a need to address more pressing issues, the state education agency announced regulations for graduation requirements in career education. Project-related changes provided the simplest way for the entire school to meet these requirements. The district directed the school to pursue this approach with all faculty, and, thus, the administrator was able to reallocate time to this work.

The new principal at Green Hills actually had little interest in continuing RBS project activities and, in fact, dismissed RBS from providing

technical assistance to the school. However, the principal did devote considerable staff time to related activities because of a belief that the district had committed itself to the school board to develop a program in the area.

At both Bigtown and Patriot, the districts adopted the RBS approach for use district-wide. Of course, this development did not insure that implementation would follow, but by the end of the study it was evident that building administrators were planning to spend much of their time supporting this initiative.

Only the Suburban administrator continued to encourage project-related changes without apparently receiving a district or state impetus to do so. However, it should be noted that this person remained in contact with an RBS field agent even after the end of formal activities. This may have been an important source of incentives in this case.

Administrators at the other schools were not nearly as active in encouraging change after formal activities ended. However, this statement does not necessarily reflect administrative shortcomings. Instead, in the majority of the schools, it highlights the typical relationship that existed between building administrators and teachers. For the most part, teachers were left alone to perform their duties; administrators' time was consumed by budgeting, scheduling, and putting out the daily fires that frequent schools. Thus, teachers and administrators rarely had opportunities to discuss instruction, unless there was an additional pressure that compelled them to do so. Such an external stimulus was not present in the schools where administrative incentives were rarely provided.

At Neighbortown, for instance, a district official actually reduced resources available to support project activities, even though the person had been an active participant in formal planning. The administrator explained that with tighter funds and the relatively low priority of career education the considerable level of support for the project (in the form of release time for teachers) could no longer be justified. The official acknowledged, "We shot a mouse with an elephant gun." Subsequently, the principal adopted a wait-and-see attitude about promoting project-related efforts, and teachers reported that they assumed all of this meant that administrators had lost interest in the project. Thus, the salience of the RBS project for attaining district goals affected the allocation of resources to support change. This, in turn, affected the building administrator's efforts to encourage change which then influenced teachers' retention of new practices.

Teachers as a source of incentives for maintaining new practices. A second potential source of encouragement was other teachers. However, observations and teacher reports indicated that the majority of teachers did not interact with one another in such a way to be very effective in communicating knowledge about or providing encouragement for new practices. For example, 569 of 661 teachers surveyed said they felt free to call on other teachers to solve a problem; yet, only 108 said they visited other teachers' classrooms. This suggests that while teachers were comfortable with their colleagues, they rarely had the kind of intensive interactions about specific practices that are critical to continuation.

Nevertheless, there were pockets within schools where the work of teachers was more integrated (Corbett, 1982a). For this reason, it is more

appropriate to discuss the effects of teacher incentives on continuation at the subunit level rather than for a school as a whole. In well-integrated grades or departments, there was typically greater interaction among teachers. They frequently planned and evaluated classroom activities jointly and had more opportunities to see each other teach. This situation enabled various kinds of information to flow freely and provided numerous opportunities for one to receive positive incentives (professional recognition from peers) for specific practices. In such subunits containing an RBS participant, project-related changes were often discussed and implemented by most of the teachers. Subsequent interviews revealed that these changes were also typically maintained long after implementation. Of course, such close-knit work units could effectively resist change as well, but that was not evident in this study.

At Smalltown Elementary and Southend, tightly knit subunits not only reinforced the administrative incentives available there but also effectively and quickly induced new teachers in the group to adopt similar changes. In schools without administrative encouragement such subunits were the only source of adult recognition and enabled change to be continued through the development of a group commitment to the innovation. For example, at Neighbortown there was a department of five people which jointly planned courses, frequently taught the same courses, and evaluated the effectiveness of course activities in consultation with one another. Changes by one teacher, then, usually affected the others and, thus, were not made without the advice and consent of the group. Once such a change was made, it was adopted either by the entire group or by those who had similar responsibilities.

However this phenomenon was rare; out of the 14 schools, field work only uncovered 10 departments, grade levels, or teams structured in this way. In all 10 cases, new practices were continued unless they demonstrated their ineffectiveness. Generally teachers in schools without supportive administrators suffered a considerable loss of attention at the end of formal activities. The continuation of change also suffered as a result.

Students as a source of incentives for innovative practices. Primarily because of teacher isolation, students have been shown to be particularly important sources of incentives for teachers (Lortie, 1975). However, only three or four project participants reported in interviews that students had been especially effusive about specific new practices; instead students seemed to respond to more general aspects of a teacher's style than the day-to-day activities the teacher provided. Students may be the primary source of feedback a teacher uses to determine how satisfying being in the occupation is, but students are not major providers of incentives for specific new practices.

Altering Procedures: Curriculum Revision as a Source of Continuation

An effective alternative to using incentives to facilitate the continuation of new classroom practices was the revision of curriculum guides. This was particularly effective for change involving specific instructional activities. New instructional activities required rearrangements of the use of class time, and as a result, either existing activities had to be replaced or shoe-horned into less time. Teachers in several subunits were willing to make temporary adjustments for initial implementation but argued that they could not do so on a regular basis without complementary changes

in the curriculum. In effect, old core practices had to be replaced by new ones; if the innovative practices remained as add-on activities, they would be quickly neglected.

Incorporating new practices into curriculum guides was not unilaterally effective, however, because of differences in the bond between teachers and the curriculum across schools and across subunits within schools. For example, at Oldtown, teachers were required to formalize in writing the activities they would use to help students meet state graduation requirements. Although teachers reported there was a generally blase attitude about covering district curricula among staff members, the state requirements were more compelling because teachers would be directly accountable to carry out what they wrote. Happily for the RBS effort, project-related changes such as incorporating career awareness activities into regular course content offered a ready-made solution for meeting one portion of the requirements.

Similar commitments (although for differing reasons) to adhering to the curriculum were present in the English department at Green Hills, and the Social Studies departments at both Neighbortown and Suburban. In each case, formal changes in required content and activities helped insure that changes would continue.

The curriculum had a strong, although more indirect effect, on new practices at Patriot, Smalltown Elementary, Smalltown Middle, and Southend. At these sites, the curriculum emphasized student outcomes in basic skills, and student progress was closely monitored at both the school and district level. This close attention to basic skills helped maintain practices

intended to promote student achievement, such as those devised in the RBS projects.

Making curriculum changes had an additional advantage: It helped soften the effects of position turnover. At schools where a teacher was largely responsible for determining what occurred in the classroom, there was no assurance that someone succeeding a project participant would continue changes. For example, when the teacher who served as the project coordinator at Riverside was transferred to another school, Riverside lost its major advocate for the project. Interestingly, turnover was such a significant factor at this school that only two staff members and two students could be located two years later who even recalled the names of RBS staff who assisted the project.

Incorporating changes into curriculum guides also made the nature of a course less dependent on the individual who happened to be teaching the course at a particular time. For example, the math representative on the project at Neighbortown prepared an outline for a course that was later taken over by another teacher in the department. This second teacher had expressed no interest in the project and yet, by following the course guides, actually made as many changes as project participants. Similarly, new teachers in Social Studies at Neighbortown and on one of the teaching teams at Smalltown Elementary almost unwittingly implemented project changes as they followed curriculum guides infused with project activities.

However, a close linkage between what teachers taught and what was prescribed in the curriculum was the exception rather than the rule. As indicated in the above discussion, only four of the 14 schools exhibited a strong bond between the curriculum and teachers generally; in one of the

schools the bond was tight only where the curriculum was reinforced by state graduation requirements; and only a few subunits in schools with looser bonds demonstrated a strong commitment to enacting their particular curriculum. In the remainder of the schools and subunits teachers exercised greater flexibility in what they chose to teach. Moreover, even when it became apparent that curriculum revisions could be an effective way to promote the continuation of new practices, the people who were in the best position to instigate such revisions were often not members of the planning team or, worse, vocal critics of the project.

Assessments of Effectiveness

The third category of critical post-implementation events identified in the literature is effectiveness assessments. In each of the projects, participants initially intended for new practices to continue once implemented. Even in schools that adopted and discarded projects with alarming speed, participants expressed the hope that somehow the RBS project would enjoy a different fate. Ideally, the sole deterrent to this intent to continue would be when a practice had clearly demonstrated its ineffectiveness as a means to a desired goal. Yet, in the 14 schools and their constituent subunits, there were few examples of changes receiving a long enough trial to make an assessment about their effectiveness.

The notable examples, of course, were the well-integrated subunits discussed previously. For example, at Silver Lake, teachers in one team used student performance on teacher-made tests to determine that new instructional strategies had been effective. When asked about the prospects for a new practice continuing in the social studies department at Neighbortown, the chairperson replied that the practice would be continued for the

remainder of the year, at which time its fate would be jointly determined by the group.

There were two instances in which individual teachers made assessments of effectiveness that affected continuation. A teacher at Neighbortown and several teachers at Patriot relied on overt student behavior as a measure of effectiveness. In the former instance, the teacher maintained a practice that the teacher intended to drop; in the latter incident, the teachers discarded a practice they were inclined to maintain.

In Patriot's and Southeni's districts test data and more informal perceptions of administrators indicated that student achievement was improving. The formal projects engaged in by the districts were credited with being responsible for the increase and, thus, were continued. This kind of assessment affected retention of specific new practices more indirectly than did teacher assessments, primarily by directing building administrator attention to project-related changes.

Typically, assessments did not occur. Either projects simply came and went too frequently for objective and most subjective measures of school improvement to be attributable to any specific intervention, or objective data were so far removed from the occurrence of specific practices that their effectiveness could not be clearly determined. Thus, on the whole, potentially beneficial practices suffered the same fate as less useful practices (and vice-versa), unless alternative sources of incentives were available or new practices had been incorporated into curriculum guidelines.

A Framework for Understanding Continuation

Figure 2 summarizes the relationships among the continuation of classroom changes, critical post-implementation events, and school context discussed in the previous sections. To read the chart the reader must remember several rules. First, arrows drawn from one variable (or, more appropriately, category of variables) to another indicate the direction of effect between the two (e.g., allocation of district resources affects the provision of administrative incentives). Second, arrows drawn from a variable to the mid-point of another arrow imply that the variable has a mediating effect on the relationship between the two variables the second arrow connects (e.g., incorporation of new practices into the curriculum can mediate the detrimental effects of staff turnover on continuation). Third, the encircled signs along an arrow indicate the nature of the relationship between two variables. The meaning of a positive or negative sign is straightforward; an encircled zero means that the variable does not have an inherently positive or negative effect on another variable.

Figure 2 about here

A caveat is necessary regarding the framework. The data reported in this study do not provide a test for the framework; they generated it by pointing to antecedent conditions as one worked backward from continuation to critical post-implementation events to school context. It remains for subsequent research to explore the theoretical statements more fully. However, the framework is consistent with the previous research on

continuation in terms of the nature of critical post-implementation events and moves beyond these findings by tying events to school characteristics upon which their occurrence is contingent.

The framework can best be explicated by working backwards from right to left. The post-implementation events and one school context characteristic had direct effects on whether or not teachers maintained new classroom practices. The post-implementation events have been discussed: (1) the provision of administrative and peer incentives, (2) incorporating new practices into the curriculum, and (3) assessing the effectiveness of the new practices. It should be noted that incorporating changes into the curriculum had a positive effect on continuation only where the linkage between teachers and the curriculum was already tight. This is indicated by the arrow drawn from "linkage between teachers and curriculum" to the arrow drawn between "incorporation" and "continuation." Also, the occurrence of effectiveness assessments had no single direction of effect on continuation. The result of assessments can be either positive or negative.

The one school context factor that directly affected continuation was staff turnover. This factor has been addressed in previous research as well (Louis, 1980). Obviously, when project participants left a school, the overall number of teachers using new practices dropped. This tendency was mediated in well-integrated subunits where the practices had been incorporated into the curriculum, thus an arrow from "incorporation" is drawn to the arrow between "staff turnover" and "continuation." In other words, the greater the incorporation into the curriculum of new practices, the less staff turnover had a negative effect on continuation of the practices.

A critical contribution of this study to the research on continuation is the identification of school context factors upon which the occurrence of the post-implementation events is contingent. It is not enough to know that the events are necessary to promote continuation; understanding of the conditions under which the events occur is also imperative.

First, whether or not administrators provided incentives to teachers to continue new practices was contingent upon the availability of resources to support this activity and upon the nature of teacher/administrator interactions about instruction in the school. Additionally, the availability of resources to support the change project had some positive effects on the nature of these interactions. Resource availability itself was further contingent upon the salience of project activities for meeting district goals (or for complying with state requirements which boosted the priority of relevant district goals).

Second, whether or not other teachers provided incentives for continuing new practices hinged primarily upon the organizational structure of subunits. Where the work of a teacher was well-integrated with that of others, interaction about instruction was frequent and incentives for specific practices were generally provided; where teachers were more isolated and autonomous, such incentives were not available. Staff turnover had some negative effects on peer incentives when project participants subsequently left a school. The magnitude of this loss was mediated in subunits with close linkages among teachers, as indicated by the arrow drawn from "subunit integration" to the arrow between "staff turnover" and "provision of peer incentives."

Third, school context was not so important for determining whether new practices were incorporated into the curriculum as it was for determining whether such incorporation had a positive effect on continuation. A positive effect resulted only under the condition of a close linkage between teachers and the curriculum.

Finally, assessments of effectiveness had a better chance of occurring in schools that had a lower adoption rate of new projects. In schools where principals were labeled as "joiners," projects came and went with such frequency that no single one received attention long enough for its effectiveness to be determined. New projects had increased longevity when they were clearly salient means for attaining district goals. It has already been noted that assessments also had a better chance of occurring where incentives were available and new practices had been incorporated into curriculum guidelines.

Generally, this framework highlights the importance of system linkages as a major factor in the change process. Close bonds among teachers and between teachers and administrators increase the probability that incentives for new practices will be available; close bonds between formal curricula and classroom practices heighten the effectiveness of curriculum alterations; and close bonds in both cases improve the chances that a change will last long enough to have its effectiveness assessed. Thus, continuation of new practices is facilitated in a school where such linkages are present.

Conclusion

Of the critical post-implementation events, by far the most frequent and powerful was the provision of incentives by administrators. Opportunities for teachers to interact with one another regularly enough to be an effective source of incentives for specific new practices were rare except in a few scattered departments or grade level subunits. Making complementary alterations in a curriculum was also powerful, but not very frequent. Moreover, such events were effective only where the curriculum actually guided practice. Effectiveness assessments generally did not occur, either due to the premature ending of a project or to the unavailability of data clearly indicative of the effects of specific practices.

What this analysis suggests is that the persistence of new practices in schools is problematic. It relies heavily on administrators being able to devote regular attention to encouraging staff to maintain newly implemented practices; and given the hectic nature of administrators' lives, this too is problematic.

However, the situation does not appear hopeless. Although many schools may well deserve the criticism that they flit from fad to fad, the blame is wrongly targeted if it is directed at the personal shortcomings of educators, either individually or collectively. Instead, the rapid coming and going of change is deeply embedded in the ways schools are organized. Contextual factors such as the availability of resources to support change, the nature of teacher-administrator interaction about instruction, subunit integration, staff turnover, and how closely curricula govern instructional behavior influence whether or not events critical to the continuation (or the reasoned discontinuation) of new practices will occur. Solutions to

the problem of promoting lasting educational change, then, need to take these factors into account. At a minimum, attention needs to be directed (1) to what incentives are available to administrators to encourage them to allocate time specifically to encouraging teachers, (2) to seeking out school subunits where peer incentives already flow regularly as important initial targets of change, and (3) to taking advantage of situations where curricula already closely govern instructional behavior. These first steps should at least improve the chances of new practices remaining in place long enough for their effectiveness to be properly determined.

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NAME	LEVEL	NUMBER OF CLASSROOM TEACHERS	PERCENT OF MINORITY STUDENTS	COMMUNITY SERVED	RBS PROJECT
Patriot	Elementary	18	95%	Small City	Basic Skills
Middleburg	Elementary	31	11%	Suburban	Basic Skills
Middletown	Elementary	22	21%	Suburban	Basic Skills
Southend	Elementary	13	20%	Rural	Basic Skills
Smalltown	Elementary	35	33%	Rural	Basic Skills
Smalltown	Middle	38	21%	Rural	Basic Skills
Urban	Junior High	77	61%	Big City	Citizen Education
Farmcenter	Junior High	43	19%	Small City	Citizen Education
Riverside	Middle	63	96%	Big City	Citizen Education
Suburban	Junior High	49	2%	Suburban	Citizen Education
Green Hills	Junior High	45	8%	Suburban	Career Preparation
Neighbortown	Senior High	49	0%	Rural	Career Preparation
Bigtown	Senior High	150	92%	Small City	Career Preparation
Oldtown	Senior High	141	55%	Small City	Career Preparation

Figure 1. The 14 Schools.

Table 1. Implementation and Continuation

SCHOOL	ELAPSED TIME[a]	TEACHERS WHO CHANGED[b]	CONTINUATION[c]	ADMINISTRATORS WHO CHANGED[b]	CONTINUATION[c]	PROCEDURAL CHANGES[d]	CONTINUATION
Middleburg	24 months	8	Declined	0	NA	Yes	Declined
Smalltown Elem.	24 months	19[e]	Gained	2	Maintained	No	NA
Smalltown Middle	24 months	8	Maintained	1	Maintained	No	NA
Riverside	24 months	2	Declined	0	NA	Yes	Declined
Suburban	24 months	6	Maintained	1	Maintained	Yes	Maintained
Urban	24 months	0	NA	0	NA	Yes	Maintained
Farmcenter	18 months	3-5	Declined	0	NA	Yes	Maintained
Southend	12 months	10	Maintained	1	Maintained	No	NA
Green Hills	12 months	12	Declined	0	NA	0	NA
Oldtown	12 months	19	Declined	0	NA	Yes	Maintained
Neighbortown	12 months	11	Declined	0	NA	Yes	Maintained
Bigtown	12 months	10	Maintained	0	NA	Yes	In progress
Middletown	In progress[f]	18	Declined	0	NA	Yes	Maintained
Patriot	In progress[f]	6	Maintained	1	Maintained	Yes	Maintained

[a] Schools are ordered according to elapsed time from the end of meetings with RBS to final data collection.

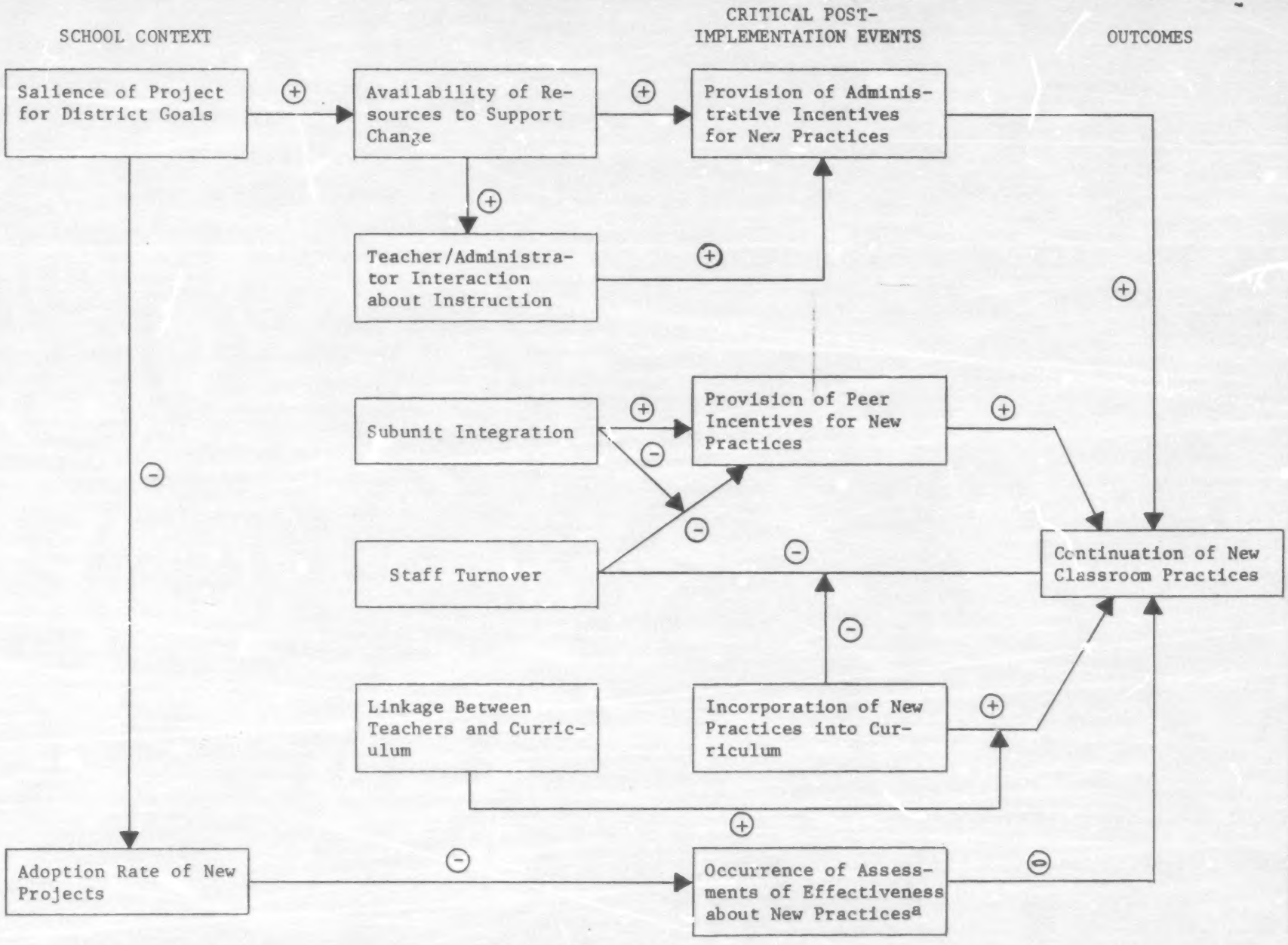
[b] Excludes awareness changes which appeared to be substantial but difficult to track over time.

[c] Determined by comparing number of individuals who initially implemented new practices with number who continued to use the new practices at times o final data collection. "NA" means a rating was not applicable.

[d] Includes changes such as new scheduling practices for special students, new awards systems for students, new methods for selecting student officers scheduling new classes, and rearranging teacher planning times.

[e] This number is a rough estimate. At the other schools innovating teachers were directly interviewed by researchers or identified specifically by informants. At this school informants estimated such a high percentage of innovators that follow-up interviews could not be conducted with everyon Estimates ranged from "amost everyone" by the principal to 75% by an assistant principal to "about half" by teachers. Because administrators in mo schools seemed to overestimate the amount of implementation, the "about half" estimate was used to arrive at a figure for the school.

[f] These two schools were excluded from subsequent analysis because RBS maintained a presence in the schools.


SCHOOL CONTEXT
CRITICAL POST-IMPLEMENTATION EVENTS
OUTCOMES
Salience of Project for District Goals
Availability of Resources to Support Change
Provision of Administrative Incentives for New Practices
Teacher/Administrator Interaction about Instruction
Subunit Integration
Provision of Peer Incentives for New Practices
Staff Turnover
Continuation of New Classroom Practices
Linkage Between Teachers and Curriculum
Incorporation of New Practices into Curriculum
Adoption Rate of New Projects
Occurrence of Assessments of Effectiveness about New Practices[a]

[a]Occurrence of the other post-implementation events improves the chances that such assessments will be made.

Figure 2. A Framework for Understanding Continuation